EPA Official Record

Notes ID: 00E69A3CC54BEF4C88257AF4006D6F0B

From: Rick Albright/R10/USEPA/US

To: Kira Lynch/R10/USEPA/US@EPA

Copy To: Sylvia Kawabata/R10/USEPA/US@EPA; Brandon Perkins/R10/USEPA/US@EPA; Marcia Bailey/R10/USEPA/US@EPA; Sheila Fleming/R10/USEPA/US@EPA

Delivered Date: 01/15/2013 11:55 AM PST

Subject: Re: Alaska DEC Tech Support Request

Please feel free to contact Ada directly. Thanks, Kira, and I agree with your logic.

"Paper is a valuable resource; please don't print copies of this email."

Rick Albright
Director, Office of Environmental Cleanup
EPA Region 10
(206) 553-1847
FAX (206)553-0124
albright.rick@epa.gov

> Kira Lynch---01/15/2013 06:59:54 AM---Hi Rick I met with Brandon and Marcia Bailey (see is the OEA RA that help with the PPTRV development

From: Kira Lynch/R10/USEPA/US
To: Rick Albright/R10/USEPA/US@EPA,
Cc: Sylvia Kawabata/R10/USEPA/US@EPA, Brandon Perkins/R10/USEPA/US@EPA, Marcia Bailey/R10/USEPA/US@EPA, Sheila Fleming/R10/USEPA/US@EPA
Date: 01/15/2013 06:59 AM
Subject: Re: Alaska DEC Tech Support Request

Hi Rick

I met with Brandon and Marcia Bailey (see is the OEA RA that help with the PPTRV development for sulfolane) to discuss the site. We agreed that John Wilson's technical support would be useful but it is important for the Region to stay involved with discussions between ORD and ADEC. I volunteered to play that role and keep Marcia and Brandon in the loop and coordinate with Sheila when we think we need to bring in some OEA hydro support. Do you want to respond to Dave Burdens e-mail and let him know or would you like me to let Ada know. Kira

Kira Lynch
Superfund Technology Liaison (STL) - Region 10
ORD - Office of Science and Policy
1200 Sixth Avenue, Suite 900
Office of Environmental Assessment (OEA)
Seattle WA 98101
phone: 206-553-2144
cell: 206-850-4323
fax: 206-553-0119

Rick Albright---01/14/2013 04:12:19 PM---Kira, when I spoke to Dan Opalski about this site, he also thought there might be a role for ORD, so

From: Rick Albright/R10/USEPA/US
To: Kira Lynch/R10/USEPA/US@EPA
Cc: Sylvia Kawabata/R10/USEPA/US@EPA, Brandon Perkins/R10/USEPA/US@EPA
Date: 01/14/2013 04:12 PM
Subject: Re: Alaska DEC Tech Support Request

Kira, when I spoke to Dan Opalski about this site, he also thought there might be a role for ORD, so please be thinking about that as well.

"Paper is a valuable resource; please don't print copies of this email."

Rick Albright
Director, Office of Environmental Cleanup
EPA Region 10
(206) 553-1847
FAX (206)553-0124
albright.rick@epa.gov

Kira Lynch---01/14/2013 06:53:01 AM---Hi Brandon Give me a call when you get in. Kira

From: Kira Lynch/R10/USEPA/US
To: Sylvia Kawabata/R10/USEPA/US@EPA,
Cc: Brandon Perkins/R10/USEPA/US@EPA, Rick Albright/R10/USEPA/US@EPA
Date: 01/14/2013 06:53 AM
Subject: Re: Alaska DEC Tech Support Request

Hi Brandon

Give me a call when you get in. Kira
Kira Lynch
Superfund Technology Liaison (STL) - Region 10
ORD - Office of Science and Policy
1200 Sixth Avenue, Suite 900
Office of Environmental Assessment (OEA)
Seattle WA 98101
phone: 206-553-2144
cell: 206-850-4323
fax: 206-553-0119

Sylvia Kawabata---01/14/2013 06:49:59 AM---yes From: Kira Lynch/R10/USEPA/US

From: Sylvia Kawabata/R10/USEPA/US
To: Kira Lynch/R10/USEPA/US@EPA
Cc: Brandon Perkins/R10/USEPA/US@EPA, Rick Albright/R10/USEPA/US@EPA
Date: 01/14/2013 06:49 AM
Subject: Re: Alaska DEC Tech Support Request

---

yes

Kira Lynch---01/11/2013 07:37:45 PM---Would you like Brandon and I to work out what role Region 10 should play in technical support partic

From: Kira Lynch/R10/USEPA/US
To: Sylvia Kawabata/R10/USEPA/US@EPA
Cc: Brandon Perkins/R10/USEPA/US@EPA, Rick Albright/R10/USEPA/US@EPA
Date: 01/11/2013 07:37 PM
Subject: Re: Alaska DEC Tech Support Request

Would you like Brandon and I to work out what role Region 10 should play in technical support participation? Kira

Kira Lynch
Superfund Technology Liaison (STL) - Region 10
ORD - Office of Science and Policy
1200 Sixth Avenue, Suite 900
Office of Environmental Assessment (OEA)
Seattle WA 98101
phone: 206-553-2144
cell: 206-850-4323
fax: 206-553-0119

-----Sylvia Kawabata/R10/USEPA/US wrote: -----
To: Kira Lynch/R10/USEPA/US@EPA
From: Sylvia Kawabata/R10/USEPA/US
Date: 01/11/2013 03:09PM
Cc: Rick Albright/R10/USEPA/US@EPA, Brandon Perkins/R10/USEPA/US@EPA
Subject: Re: Alaska DEC Tech Support Request

Brandon Perkins

Kira Lynch---01/11/2013 09:52:09 AM---Hi Sylvia and Rick I am interested to know whether this site justifies use of Superfund technical re

From: Kira Lynch/R10/USEPA/US
To: Sylvia Kawabata/R10/USEPA/US@EPA, Rick Albright/R10/USEPA/US@EPA
Date: 01/11/2013 09:52 AM
Subject: Alaska DEC Tech Support Request

Hi Sylvia and Rick

I am interested to know whether this site justifies use of Superfund technical resources. Who is working on the PA? Kira

Kira Lynch
Superfund Technology Liaison (STL) - Region 10
ORD - Office of Science and Policy
1200 Sixth Avenue, Suite 900
Office of Environmental Assessment (OEA)
Seattle WA 98101
phone: 206-553-2144
cell: 206-850-4323
fax: 206-553-0119

-----Forwarded by Kira Lynch/R10/USEPA/US on 01/11/2013 09:49AM -----
To: Dan Opalski/R10/USEPA/US@EPA, Rick Albright/R10/USEPA/US@EPA, Kira Lynch/R10/USEPA/US@EPA, JohnT Wilson/ADA/USEPA/US@EPA

From: David Burden/ADA/USEPA/US
Date: 01/11/2013 09:24AM
Subject: Alaska DEC Tech Support Request

Dan and Rick,

We have received a request from the ADEC's Jim Fish to provide some technical support in the form of consultation and peer review as related to the Flint Hills Resources North Pole Refinery. Jim has specifically requested the assistance of Dr. John Wilson here at our EPA/ORD Lab in Ada, OK. I manage the ORD Ground Water Technical Support Center, which provides technical assistance for the Regions on Superfund and RCRA sites across the country. We have worked on numerous SF and RCRA sites in Region 10 in the past and have a great working relationship with many people there in Region 10. Occasionally we receive requests such as the one below directly from the states, but we always want to make sure the appropriate EPA Region is on board with us providing technical support and advice. Therefore, I wanted to make you both aware of this request and make sure Region 10 is okay with us providing technical support. Jim Fish's original email request is attached below for your information. Please respond back to me and Dr. Wilson if you concur with this request. We will be happy to include you in any conference calls or discussions concerning this site as well as cc you on any official memos or correspondence we provide to ADEC.

If you have any further questions, please feel free to contact me at your convenience.

Dave Burden

David S. Burden, Ph.D., Director
Ground Water Technical Support Center

Ground Water and Ecosystems Restoration Division
National Risk Management Research Laboratory
U.S. Environmental Protection Agency
Ada, OK

Email: burden.david@epa.gov
Phone: 580-436-8606

"We make a living by what we get.
We make a life by what we give."
-- Sir Winston Churchill

----- Forwarded by David Burden/ADA/USEPA/US on 01/11/2013 11:07 AM -----

From: JohnT Wilson/ADA/USEPA/US
To: David Burden/ADA/USEPA/US@EPA
Cc: Kelly Smith/ADA/USEPA/US@EPA
Date: 01/09/2013 01:49 PM
Subject: Fw: Request for consultation/peer review

Dave: Please see below. Let me know if you accept this request.

----- Forwarded by JohnT Wilson/ADA/USEPA/US on 01/09/2013 01:48 PM -----

From: "Fish, James T (DEC)" <james.fish@alaska.gov>
To: JohnT Wilson/ADA/USEPA/US@EPA
Date: 01/09/2013 12:49 PM
Subject: Request for consultation/peer review

Hello Dr. Wilson,

I am requesting consultation and peer review support from the USEPA's Ada Laboratory Subsurface Remediation Branch to better understand the degradation (both biological and abiotic) of sulfolane (2,3,4,5-tetrahydrothiophene-1,1-dioxide) in the subsurface aquifer in North Pole, Alaska. This compound is a contaminant originating from the Flint Hills Resources (FHR) North Pole Refinery, whose release has resulted in a contaminated groundwater plume roughly 3-miles long and 2-miles wide. This compound has been detected in the municipal drinking water well, and in over 300 private residential drinking water wells. Since its discovery, a new municipal well has been installed, and most residences have been given bottled water (since 2010) and options for alternative water supplies – one of which includes a point-of-entry treatment system based on granulated activated carbon use. Site characterization work continues both on-site at the refinery, and off-site to delineate the vertical and horizontal distribution of sulfolane. The site has also been recently ranked during a preliminary assessment conducted by EPA Region 10.

Because little is known concerning the toxicity of sulfolane, its transport and fate in a subsurface environment containing discontinuous permafrost, as well as the mechanism and rates of its degradation in soil and groundwater, ADEC has formed a number of Technical Project Teams to study these various issues. I am specifically involved in understanding the degradation of sulfolane, and have formulated a study plan with input from various stakeholders (i.e., the responsible parties, consultants, and the University of Alaska, Fairbanks). An alternative groundwater cleanup level of 14 µg/L for sulfolane has been established for this site.

ADEC Contaminated Sites Program has an on-going dialogue with Region 10 EPA (Dan Opalski, and now Rick Albright) concerning the oversight of this large-scale contaminated site issue. Feasibility studies and a cleanup plan for both on-site at the refinery as well as off-site for the contaminated groundwater plume is currently under development. From preliminary studies, and review of the scientific literature, sulfolane appears to degrade rapidly under aerobic conditions, and aerobic sulfolane-degrading microorganism have been enriched and isolated from source area monitoring wells. However, the majority of the Tanana river aquifer in North Pole is anaerobic, with iron and manganese reduction, and to some degree sulfate reduction, prevalent. Laboratory microcosm incubations and stable isotope probing experiments are underway at the University of Alaska, Fairbanks. As well, compound specific isotope analysis of sulfolane has been performed at the University of Oklahoma. A recent development has been to consider the degradation mechanisms on granulated activated carbon POE systems, and determine if users are being exposed to degradation intermediate compounds.

ADEC is asking EPA Ada Laboratory staff to assist in the review documents, occasionally attend (telephonically) sub-group or technical meetings, and provide comments and recommendations specifically to better understand the biological and abiotic degradation of sulfolane, how best to determine its degradation rate in-situ, and how best to apply this information to proposed cleanup actions (e.g., implementation and evaluation of an on-site air-sparge curtain and off-site monitored natural attenuation).

Please let me know if you can provide this type consultation and peer review support. You can find more information about sulfolane and the North Pole contaminated site at:

http://dec.alaska.gov/spar/csp/sites/north-pole-refinery/index.htm

(once here, please navigate to the links under "project Links" on the left-hand side of the webpage).

Additional technical information about sulfolane and a brief literature summary can be found at:

http://dec.alaska.gov/spar/csp/sites/north-pole-refinery/docs/SulfolaneAppendix%20F.pdf

I can also forward more technical documents if you are interested.

Please do not hesitate to contact me to discuss any details of this project. Thank you for your consideration.

Jim

Jim Fish
Alaska Department of Environmental Conservation
Contaminated Sites Program
610 University Avenue
Fairbanks, Alaska 99709
Ph 451-2117
FAX 451-5105
james.fish@alaska.gov